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EXECUTIVE SUMMARY

# Butte Creek Watershed Road Survey

**Name of Applicant and Principal Investigators**
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**Project description and Primary Biological/Ecological Objectives**
The Butte Creek Watershed Project (BCWP) in the Department of Geography and Planning at California State University Chico (CSU Chico) and Meadowbrook Conservation Associates are proposing the evaluation of the roads in the upper Butte Creek Watershed to assess the impacts of road related erosion. The BCWP is preparing a Watershed Management Strategy for the Butte Creek Watershed Conservancy in cooperation with and with funding from various state and federal agencies and private stakeholders interests. The BCWP has identified a significant data gap in the existing conditions evaluation in that, although unpaved roads are fairly well mapped, there is no quantitative data on the erosion potential of various road/soils conditions, road management techniques and, in particular, waterway and stream way crossings. Numerous studies have emphasized the major role that forest roads play as contributors of sediment to streams. No comprehensive assessment of watershed condition can ignore roads and their impacts. This project will involve the systematic survey of all roads with the objectives of assessment of the extent and relative magnitude of sediment contribution from road systems in the watershed, identification, mapping, and prioritization of specific road-related sediment sources for treatment, and identification of patterns of recurring problems that can help redirect road construction and road maintenance practices to minimize problems in the long-term. Management that ensures the maintenance and protection of this valuable anadromous habitat is clearly needed to perpetuate this stock of salmon.

**Approach/Tasks/Schedule**
Methodology and protocols will be those as utilized by Plumas National Forest and Natural Resource Conservation Service in previous surveys. The schedule of tasks will include gathering of existing data, developing base maps, training survey crews, surveying, cataloging and data entry of all inventoried sites to be compiled into an electronic database for analyzation of factors and identification of sites attributes culminating in a final report.The project will produce original data sheets sorted and indexed by sub-watershed, a final completion report which presents the study's purpose, methods of analysis, results and conclusions with a comprehensive set of tabular summaries, and maps of all inventoried sediment source areas, precisely located and coded with a unique identifier, at a scale of 1:24,000.

**Justification for project and funding by CALFED**
The Butte Creek drainage is among the last few Sacramento River tributaries that still provide good quality habitat for the production of wild spring-run Chinook salmon. Management that ensures the maintenance and protection of the valuable anadromous habitat is clearly needed to perpetuate this stock of salmon. Watershed restoration efforts are considered by CALFED to be

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an integral part in maintaining the good quality shaded riverine aquatic and instream aquatic habitats that still exist. Evaluation of the sediment contribution from the road systems is a fundamental component of watershed assessment. The production of road-related sediment is generally considered as one factor that can influence habitat over the long term. This project will further the efforts supported by NFWF and others to provide a balance between humans and the primary habitats and priority species as identified by CALFED.

**Budget costs and third party impacts**
Request from CALFED for budget costs to complete all tasks and phases of the project amount to $59,490. Potential impacts include identification of sediment sources from third parties that may require remediation.

**Applicant qualifications**
The protection and enhancement of local creeks and watersheds by local community groups is a high priority at CSU,Chico. Toward this end, faculty and resources, conservation groups, public agencies, and others as needed are utilized. As part of its community service mission, it is the policy of the University Research Foundation to organize teams for special projects to provide the kinds of services required for this project. Meadowbrook Conservation Associates are specialists in aquatic and riparian systems with extensive experience in erosion and sediment study, aquatic habitat survey, watershed assessment, water quality monitoring and stream restoration. Meadowbrook Conservation Associates have recently completed surveys of road-related sediment sources in the Deer and Mill Creek watersheds.

**Monitoring and data evaluations**
Methodology and protocols are well established as utilized by Plumas National Forest and Natural Resource Conservation Service in previous surveys. All data evaluation will be conducted by Meadowbrook Conservation Associates and CSU,Chico in accordance with established protocols

**Local support/coordination with other programs/compatibility with CALFED objectives**
NFWF, CSU, Chico and BCWC have been contributing to the program as part of the development of the Watershed Management Strategy. This project will be easy to implement as base maps have already been developed, initial road mileage has been quantified, and assessment protocols have been defined. This project is highly compatible with CALFED objectives of watershed restoration efforts as integral parts in maintaining good quality shaded riverine aquatic and instream aquatic habitats that still exist.